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A SERVICE FOR INDUSTRY BUSINESS ENGINEERING AND RESEARCH
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Dear Sir:

Nuclear products division has been formed by The Fenn Manufacturing Co., Newington, Conn. The new division, for which a separate machining, fabricating, chemical and surface treatment facility has been established, will manufacture nuclear reactor components on a sub-contract basis to existing primary reactor builders. James P. Gantley will head the nuclear division's operations; A. T. Scattergood will be in charge of field contact and engineering. Equipment installed by Fenn for the new division includes 30 HP milling machines; punch presses; rolling mill to handle zirconium, beryllium, and stainless steels; roll leveler; shear and special cleaning tanks; etc. (The new division represents an expansion of its nuclear work by Fenn which up to now has been supplying rolling mills and related metal forming machines to the atomic industry.) (Other MANUFACTURERS' NEWS, p. 3 this LETTER.)

Contract of Lucius Pitkin, Inc., Brooklyn, N.Y., to handle uranium ore buying and concentrate receiving work for the USAEC's Grand Junction, Colo., office is being extended by the Grand Junction office for one year (from its expiry date of June 30, 1959) to June 30, 1960 with an option to extend yearly to June 30, 1962. Pitkin is also taking over the raw material service work being handled by Swinerton & Walberg Co., San Francisco, whose contract with the Commission's Grand Junction office would expire April 30, 1959, or sooner by exercise of a termination clause. (Other CONTRACT NEWS, p. 5 this LETTER.)

Some 78 patented inventions, developed during the course of research work sponsored by or contracted for by the USAEC, have been made available on a royalty-free basis (non-exclusive) by the Commission. This makes a total of 1,669 patented inventions held by the USAEC which have been so released. Further information on these inventions may be obtained from Patent Branch, USAEC, Wash. 25, D.C. (Other PATENT NEWS, p. 4 this LETTER.)

Increase of some 35¢ in the net asset value of its shares during 1958 is reported by Axe Science & Electronics Corp., mutual fund owning shares of companies in such fields as uranium ore mining, nuclear equipment manufacture, nuclear power production, electronics, etc. The company had unrealized security profits of $2.25 a share at the end of its fiscal year Dec. 31, 1958, with shares rising during that year from $9.06 a share to $11.99. Total net assets of the fund were $8,194,218 Dec. 31, 1957; a year later, Dec. 31, 1958, total net assets were $9,446,139. The Fund's technical adviser is Nuclear Science and Engineering Corp., Pittsburgh, Pa. (Other FINANCIAL NEWS, p. 2 this LETTER.)

Nuclear research reactor of the TRIGA type, manufactured by General Dynamics Corp.'s General Atomic division, San Diego, has been sold by GD to the Veteran's Administration. The reactor, for the VA's Omaha, Nebraska, hospital, will be the first of this type to be used specifically in medical research. (Other PRODUCT NEWS, p. 3 this LETTER.)

ATOMIC ENERGY FINANCIAL NEWS...

FINANCING PROPOSAL FILED BY NUCLEAR POWER COMPANY:- Yankee Atomic Electric Co., Boston, and its associated companies, has filed a $44 million financing proposal with the Securities and Exchange Commission. The proposal stated that Yankee will sell 70,000 shares of common stock to the 11 stockholder companies which make up Yankee for $7 million. It will also sell $20 million of first mortgage bonds to a group of 10 insurance companies, and $17 million of unsecured promissary notes to the First National Bank of Boston. The 11 New England utility companies will acquire the common stock in proportion to their present holdings in Yankee. (Organized in 1954, Yankee Atomic is constructing a 134,000 kw nuclear power plant at Rowe, Mass. Its entire net electrical output will be sold to the 11 New England utilities which are Yankee's stockholders. The plant's total capital requirements, including working capital, are estimated at $57 million, of which $20 million is supplied in the form of common stock by Yankee's shareholders. The SEC had previously authorized the sale of $13 million par amount of the common stock.)

COMPANY ACQUIRED BY NUCLEAR INSTRUMENT MANUFACTURER:- Landsverk Electrometer Co., Glendale, Calif., manufacturer of radiation measuring devices, has bought Micrograph Co., Los Angeles. Micrograph will continue to operate as a separate firm serving the atomic energy and missile industry, providing Landsverk and others with photoetching and engraving on metal or glass parts such as name-plates, dials, printed circuit negatives, and other components. It is also currently expanding its facilities to include infra-red guidance optics and radar tube matrices. Landsverk Electrometer, a producer of dosimeters, charging devices, etc., is headed by O. G. Landsverk as chairman of the board; he has assumed the same position at Micrograph.

URANIUM OPERATIONS PROVIDING INCOME FOR OIL COMPANY:- First returns from its 56% interest in Kermac Nuclear Fuels Corp., are adding to the earnings of Kerr-McGee Oil Industries, Inc., according to D. A. McGee, president. This is reflected, in part, by the increase in Kerr-McGee's earnings for its second fiscal quarter ended Dec. 31, 1958 which were 33% above the like year-earlier period, he said. In December, Kermac began production at its uranium mill at Ambrosia Lake, N.M., which has USAEC contract running to Dec. 31, 1966 to supply between $300 million and $350 million in uranium oxide concentrates. Production in January was 70% of capacity, and with additional ore deliveries expected this should approach 100% within nine months, Mr. McGee predicted. The Ambrosia Lake mill has capacity of 3,630 tons per day.

VENTURE CAPITAL COMPANY HAS RECORD NET ASSETS:- Net assets of $14,795,999 by American Research & Development Corp., Boston, on Dec. 31, 1958 were new high for this venture capital investment company which holds securities of some 23 firms in nucleonics, electronics, instrumentation, and other fields. Its unrealized portfolio appreciation of $7,172,107 on Dec. 31, 1958 compares with $2,130,777 on Dec. 31, 1957. Firms in the nuclear field whose securities it holds include Tracerlab, Inc. (common stock, mortgage note); High Voltage Engineering Corp. (common stock); and Electronuclear Corp. (common stock of this now inactive firm).

MERGER PLANNED:- Business and properties of Metals & Controls Corp., will be combined with Texas Instruments, Inc., under terms of proposed merger approved by boards of both companies and to be voted upon in April by stockholders of the firms. M&C is a large producer of nuclear fuel elements and cores, an outgrowth of the firm's activities fabricating and selling clad metal products. It also produces and sells thermostatic and electrical controls. Texas Instruments produces and sells transistors and other electronic products. As proposed, Metals & Controls Corp., will be merged into Texas Instruments, with each of the outstanding shares of M&C to be converted into 3/4ths of one share of Texas Instruments common.

PEOPLE...in nuclear work...

Willard F. Libby, USAEC Commissioner, will resign June 30, 1959 at the end of the third year of his 5-year term. Dr. Libby is the only member of the scientific community on the 5-member Commission.

Clare P. Stanford has been appointed chief of the engineering department of the Nuclear Division of The Martin Co., Baltimore. Dr. Stanford will supervise the technical effort on all projects within the division.

Neil D. Naiden has been appointed deputy general counsel of the USAEC. He had been special assistant to Commissioner John S. Graham.

PRODUCTS, PROCESSES, SERVICES...for nuclear lab & plant...

NEW PRODUCTS FROM MANUFACTURERS:- New liquid monitoring system continuously monitors and records the level of radioactivity of wastes, sewage, or inlet water and sounds an alarm, indicates, or causes closure when preset level is exceeded. System consists of scintillation detector inserted directly into the liquid stream; ratemeter; recorder; and specific accessories for the particular application. System can measure beta-gamma or gamma-radiation. --Tracerlab, Inc., Waltham 54, Mass.

New gas flow counting system uses flow counter which permits shielded window and windowless counting by interchanging detector chambers. Model FC-72 has a thin Mylar window; Model FC-73 is the windowless, pre-flush type. The counters operate in the Geiger or proportional region and can be used for detecting alpha particles and weak betas such as C-14, sulfur-35, calcium-45 and tritium --Atomic Accessories, Inc., 244-02 Jamaica Ave., Bellerose, N.Y.

PRODUCT NEWS:- The deferred payment plan for enriched power reactor fuel contained in the U.S.-EURATOM agreement (Nov. 8, 1958), has now been made available by the USAEC to non-EURATOM countries which have Agreements for Cooperation with the U. S. The plan will be restricted to nuclear power projects with combined generating capacity of up to 500,000 kw, using U. S. designs and a substantial portion of U. S. components. It provides for use of the reactor fuel inventory for periods up to 10 years without payment of principal. Payment of the principal will be spaced over the 10 years following the initial 10-year use period. Interest for the 20-year period will be the same as the use charge for special nuclear material in the U. S. at the time of payments. Fuel consumed will be paid for as used.

Total of 228,717 curies of radioisotopes were shipped by the USAEC's Oak Ridge National Laboratory during 1958, compared with 166,652 curies shipped in 1957. Although total quantity of radioactivity units increased considerably, actual number of shipments only increased slightly. This was due to larger unit purchases by bulk buyers (who reprocessed for retail sale) of cobalt-60, cesium-137, iodine-131, and phosphorous-32. Gross sales for 1958 were $2,438,169, a decrease from $2,599,284 registered in 1957. The decrease was mainly result of reduction in price for cobalt-60 on August 1, 1957. Of the 1958 shipments, some 552 valued at $467,917 went to 28 foreign countries with Japan the largest buyer. (Commercial suppliers made approximately 2300 foreign shipments in 1958. Most of their supplies had been bought originally from Oak Ridge National Laboratory, which is the principal supplier of radioisotopes in the U. S. In late 1958, it began first shipments from its multicurie fission products pilot plant, a chemical processing facility for recovering usable radioisotopes from reactor fuel element processing wastes.)

MANUFACTURERS' NEWS:- A complete circulation system comprising a heat transfer test loop with all necessary auxiliaries such as heaters, coolers, pumps, flowmeters, etc., and filled with NaK, is now being supplied by MSA Research Corp., Callery, Pa. for the study of liquid metal heat transfer as in nuclear reactor systems. Sales have been made by MSA to North Carolina State University, Lehigh University, Purdue University, and Virginia Polytechnic Institute, and the "package" loops will shortly be installed in their chemical engineering departments. Installation has already been made under a USAEC grant at State College of Washington, Pullman, Wash. (MSA Research Corp., subsidiary of Mine Safety Appliances Co., manufactures heat transfer systems, potassium metal, sodium potassium alloys, and components for liquid metal systems.)

Raytheon Manufacturing Co. has recently terminated its nuclear reactor program and withdrawn from American Nuclear Power Associates. ANPA was formed in 1957 by Raytheon, Burns & Rose, Inc., Clark Bros., Griscom-Russell Co., and Rockland Light & Power Co., to investigate potentialities of gas cooled, liquid metal fueled reactor design proposed by Raytheon. Proposal for USAEC assistance in the project was denied last December.

Radiation Applications, Inc., New York, has received research contract from USAEC's office of isotope development to investigate radiation-induced grafting of metallic salts and organometallics to organic polymers. The firm is a subsidiary of Schenley Laboratories, Inc., New York.

MANUFACTURERS' LITERATURE:- Use of Asarco lead for radiation shielding is covered in booklet available from American Smelting & Refining Co., 120 Broadway, New York, N.Y. ..... New booklet "So You're Going to Take a Radioactive Drug" has been issued by Abbott Laboratories, Chicago, Ill.

ATOMIC ENERGY PATENT & TRADE-MARK DIGEST...

ISSUED February 3, 1959 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS:- (1) Hydrogen content analysis. G. E. Owen, inventor. No. 2,872,583 assigned to Nuclear Corp. of America, Inc., New York, N.Y. (2) Device for rapidly making x-ray pictures. K. J. Kallenberg, R. Sardeson, inventors. No. 2,872,585 assigned to Pako Corp., Minneapolis, Minn. (3) Elapsed time indicator. A. P. Papanek, inventor. No. 2,872,586 assigned to Jack & Heintz, Inc., Cleveland, Ohio. (4) Radioactive source apparatus. Stephen Stein, inventor. No. 2,872,587 issued to inventor of record.

ISSUED February 3, 1959 to GOVERNMENTAL ORGANIZATIONS:- (1) Method of jacketing fissionable materials. L. M. Foster, inventor. No. 2,871,555 assigned to USAEC. (2) Sheathing uranium. E. W. Colbeck, inventor. No. 2,871,558 assigned to USAEC. (3) Rotor end cap. F. C. Rushing, inventor. No. 2,872,105 assigned to USAEC. (4) Recovery of protactinium. K. A. Kraus, G. E. Moore, inventors. No. 2,872,284 assigned to USAEC. (5) Solvent extraction of uranium values. H. M. Feder, M. Ader, inventors. No. 2,872,285 assigned to USAEC. (6) Bismuth phosphate carrier process for plutonium recovery. T. G. Finzel, inventor. No. 2,872,286 assigned to USAEC. (7) Method of separating tetravalent plutonium values from cerium sub-group rare earth values. R. B. Duffield, R. W. Stoughton, inventors. No. 2,872,287 assigned to USAEC. (8) Carbonate method of separation of tetravalent plutonium from fission product values. R. B. Duffield, R. W. Stoughton, inventors. No. 2,872,288 assigned to USAEC. (9) Continuous dissolver extractor for processing metal. R. B. Lemon, J. A. Buckham, inventors. No. 2,872,296 assigned to USAEC. (10) Thorium carbon alloys. H. A. Wilhelm, R. E. Rundle, inventors. No. 2,872,307 assigned to USAEC. (11) Metal compositions. A. U. Seybolt, inventor. No. 2,872,308 assigned to USAEC. (12) Zirconium alloy. H. A. Wilhelm, D. Peterson, inventors. No. 2,872,310 assigned to USAEC. (13) Method of protectively coating uranium. L. D. Eubank, E.R. Boller, inventors. No. 2,872,343 assigned to USAEC. (14) Fused salt method for coating uranium with a metal. L. D. Eubank, inventor. No. 2,872,348 assigned to USAEC. (15) Stripping metal coatings. H. T. Siefen, J. M. Campbell, inventors. No. 2,872,361 assigned to USAEC. (16) Method of working beryllium. R. E. Macherey, inventor. No. 2,872,363 assigned to USAEC. (17) Anodic treatment of uranium. Morris Kolodney, inventor. No. 2,872,387 assigned to USAEC. (18) Nuclear fuel elements and methods for making same. F. Fahnoe, J. J. Shyne, inventors. No. 2,872,388 assigned to USAEC. (19) Treatment of uranium surfaces. C. J. Slunder, inventor. No. 2,872,389 assigned to USAEC. (20) Recovery of uranium from tungsten. K. Newman, inventor. No. 2,872,394 assigned to USAEC. 21) Neutron-irradiated structures. E. L. Ashley, J. W. Ashley, H. W. Bowker, R. H. Hall, J. W. Kendall, inventors. No. 2,872,398 assigned to USAEC. (22) Self-reactivating neutron source for a nuclear reactor. H. W. Newson, inventor. No. 2,872,399 assigned to USAEC. (23) Jacketed fuel element. E. P. Wigner, L. Szilard, E. C. Creutz, inventors. No. 2,872,401 assigned to USAEC. (24) Method of preparation of material for neutron bombardment. C. L. Ura, O. Sisman, R. B. Briggs, inventors. No. 2,872,402 assigned to USAEC. (25) Reactor monitoring. S. J. Bugbee, V. F. Hanson, D. F. Babcock, inventors. No. 2,872,400 assigned to USAEC. (26) Preparation of oxalates of metals of atomic number greater than 88. R. B. Duffield, inventor. No. 2,872,467 assigned to USAEC. (27) Remote controlled switching device. J. C. Hobbs, inventor. No. 2,872,545 assigned to USAEC. (28) Cloverleaf cyclotron. E. M. McMillan, D. L. Judd, inventors. No. 2,872,574 assigned to USAEC.

ISSUED February 10, 1959 to PRIVATE ORGANIZATIONS AND/OR INDIVIDUALS:- (1) Method of separating isotopes. Jean Lamberton, H. de Lacheisserie, inventors. No. 2,873,237 assigned to Societe d'Electro-Chimie d'Electro-Metallurgie et des Acieries d'Ugine, Paris, France.

ISSUED February 10, 1959 to GOVERNMENTAL ORGANIZATIONS:- (1) Apparatus for high purity metal recovery. T. T. Magel, inventor. No. 2,873,108 assigned to USAEC. (2) Anion exchange method for separation of metal values. E. K. Hyde, B. A. Raby, inventors. No. 2,873,170 assigned to USAEC. (3) Ion switch. B. Cook, inventor. No. 2,873,400 assigned to USAEC.

PATENT NOTES:- German patents 1,018,405 and DAS 1,037,437 describe method of producing nuclear-grade uranium tetrafluoride continuously from uranium oxalate. As disclosed by Deutsche Gold- und Silber Scheideanstalt (to whom patent was issued), a water-free uranium tetrafluoride in 100% yield is obtained. Compared with production from oxides, use of the oxalate permits a continuous operation; gives higher yield; faster reaction; and allows use of wet starting material, the patentee states.

ATOMIC ENERGY CONTRACT NEWS...

The Martin Co., Baltimore, Md., has been selected by the USAEC to build factory-assembled, modular nuclear power and space heating plants for use by the U. S. Air Force at remote sites. First of the plants will be set up at Sundance Air Force Station, Sundance, Wyoming. It will have a pressurized water reactor, cooled and moderated by light water, and fueled with enriched uranium. Plant's output will be 1000 kw of electricity, and 2000 thermal kw to be utilized for space heating purposes. Martin will do the work under a cost-plus-fixed-fee contract which USAEC is now negotiating with the company. Estimated cost of $6 million is to be shared by the Commission and the Air Force. (Martin's proposal was selected by the USAEC over eight others submitted. The plant is one of the group capable of being air lifted, being developed for the Armed Forces under the Army Nuclear Power Program, jointly run by the USAEC and the Army's Corps of Engineers. Alco Products, Inc., Schenectady, recently received contract under this program; this LETTER, p. 5 Feb. 3, 1959.)

Contract in amount of $6,130,000 has been awarded by the USAEC to J. A. Jones Construction Co., Nashville, Tenn., to build an addition to the central research laboratory at Oak Ridge National Laboratory, Oak Ridge, Tenn. Bid of the Jones Co. was lowest of thirteen firms submitting bids. The additions will virtually double the size of the existing buildings; construction is expected to be completed in about two years. Architect-engineer services are being handled by A. M. Kinney, Inc., Cincinnati, Ohio.

NEW BOOKS & OTHER PUBLICATIONS...

Twenty-fifth Semiannual Report of USAEC to Congress. This report, for June-Dec., 1958 covers major nuclear programs in the U. S. during that period. --Superintendent of Documents, Wash. 25, D.C. ($1.25)

Proceedings of the French-American Conference on Graphite Reactors. Herbert Kouts, editor. Papers presented at the 7 sessions of the Conference held Oct., 1956, at Saclay. No. BNL-489 (C-27) --Office of Technical Services, Wash. 25, D.C. ($5.00)

Fact Sheets on Nuclear Energy Power Projects; revised to Dec. 1958. Current information on nuclear power plants being constructed in the U.S. -- Electric Companies Public Information Program, 501 Sheraton Bldg., Wash. 5, D. C. (n/c)

Introduction to Neutron Physics. L. F. Curtiss, consultant to the director, National Bureau of Standards. The first volume of this publisher's Nuclear Science Series. 500 pages. --D. Van Nostrand Co., Inc., Princeton, N.J. ($9.75)

Annual Review of Nuclear Science; Volume 8. E. Segre, G. Friedlander, W. E. Meyerhof, editors. 417 pages. --Annual Reviews, Inc., Grant Ave., Palo Alto, Calif. ($7.00)

NOTES:- The 45 technical-level professional films first shown by the USAEC at last September's Geneva Conference may now be obtained on loan from the Commission, or bought from the producers. These are 16mm films, many in color, covering major nuclear applications and research activities. The group includes 10 films on power reactors; 9 on research and test reactors; 3 on reactor safety; 7 on fuels and processing; 1 on particle accelerators; 1 on controlled thermonuclear research; 1 on agricultural research; 11 on biomedical work; and 2 on industrial applications. Full information may be obtained from the USAEC, Film Library, Wash. 25, D. C.

All non-secret reports of the U. K. Atomic Energy Authority prepared since 1947 are now available as microcopies on cards from Micro Methods, Ltd., East Ardsley, Wakefield, Yorks, England. Full lists may be obtained on request to the company.

Volume 2, No. 1 of the USAEC's "Reactor Fuel Processing" deals with fuel processing research and development; waste disposal; and conversion operations to final products. It is a quarterly review prepared by the chemical engineering division of Argonne National Laboratory and available from the Superintendent of Documents, Wash. 25, D. C. at a rate of $2 annually.

Sincerely,

The Staff,
ATOMIC ENERGY NEWSLETTER

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